

ABSTRACT

A family of isostructural compounds have been prepared having the general formula $A_nPb_mB_iQ_{2n+m}$. These compounds possess a NaCl lattice type structure as well as low thermal conductivity and controlled electrical conductivity. Furthermore, the electrical properties can be controlled by varying the values for n and m. These isostructural compounds can be used for semiconductor applications such as detectors, lasers and photovoltaic cells. These compounds also have enhanced thermoelectric properties making them excellent semiconductor materials for fabrication of thermoelectric devices.

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